



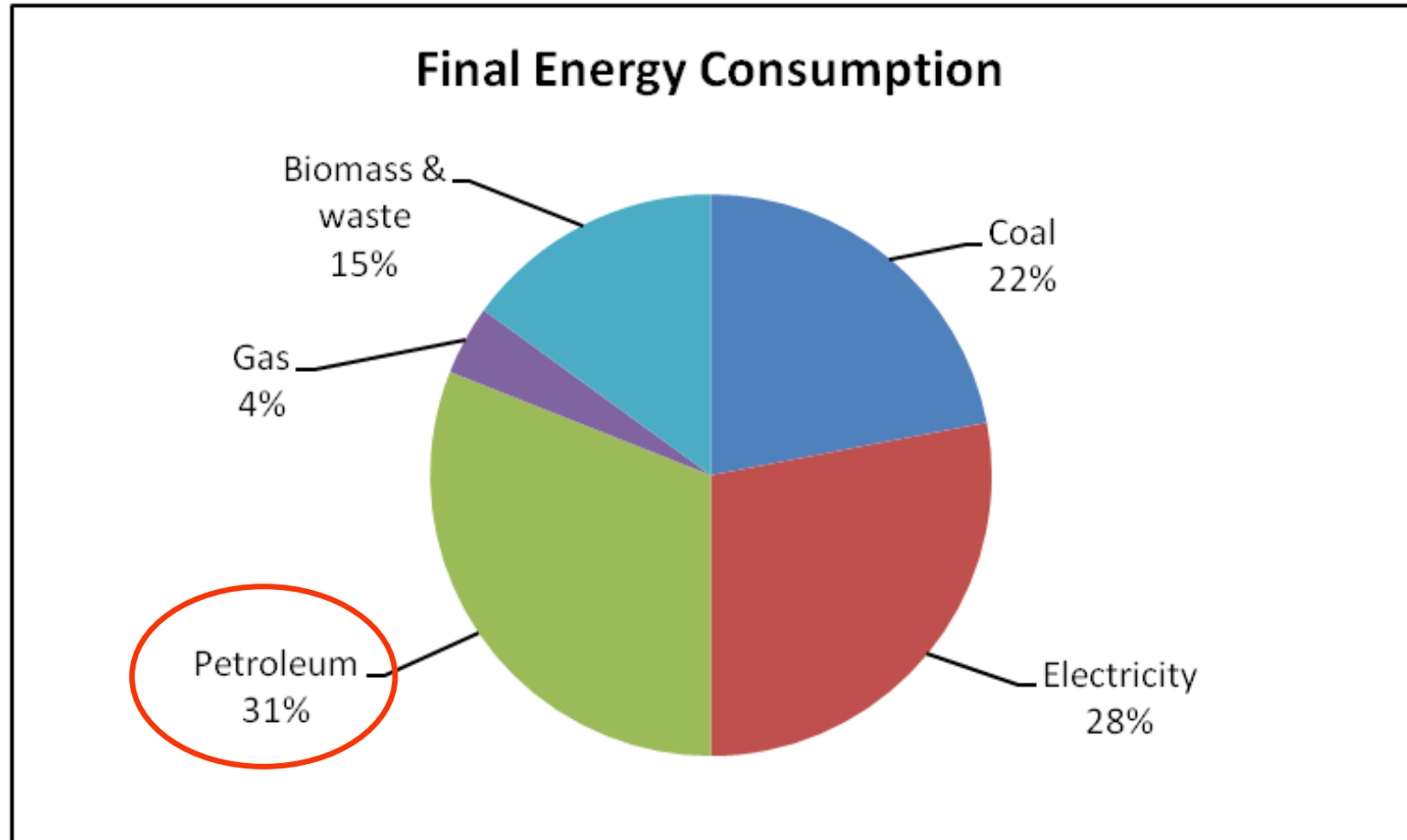
# **Peak Oil Mitigation in the Transport Sector: South Africa**

Jeremy Wakeford  
Chairman, ASPO South Africa

# Outline

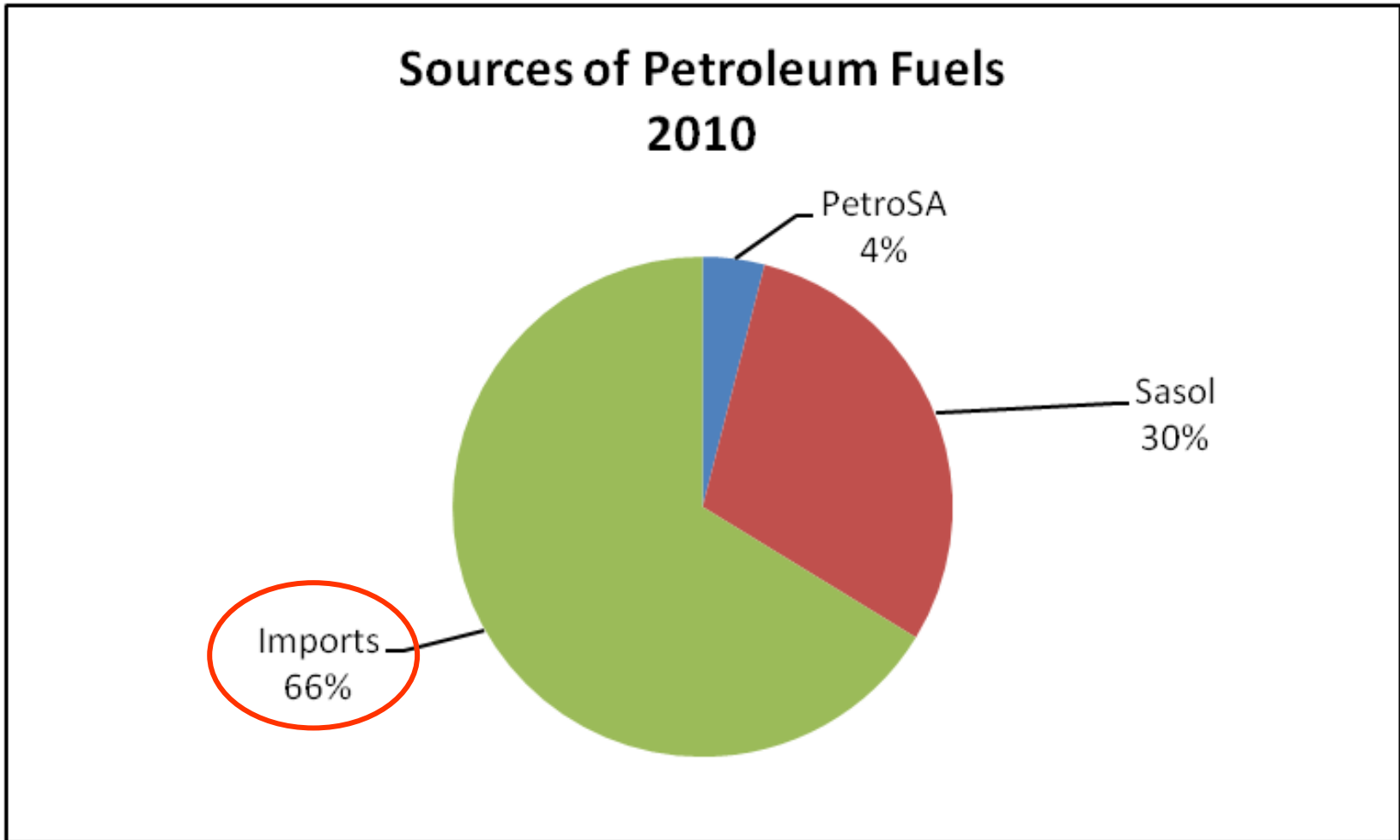
- South Africa's oil dependence
- Implications of Peak Oil under BAU
- Mitigation options for transport
- Conclusions

# Energy Consumption



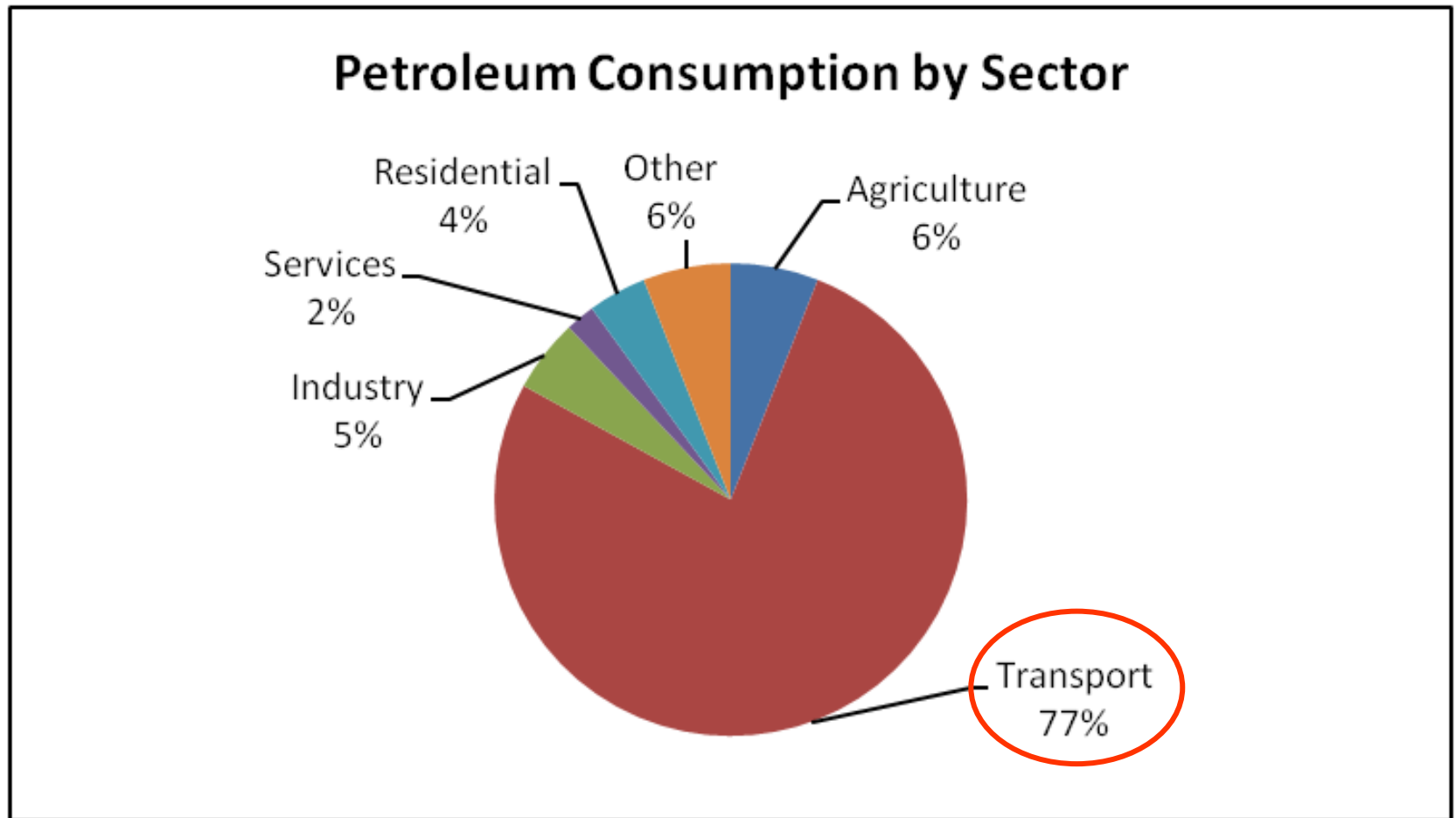
Source: IEA

# Oil Import Dependence



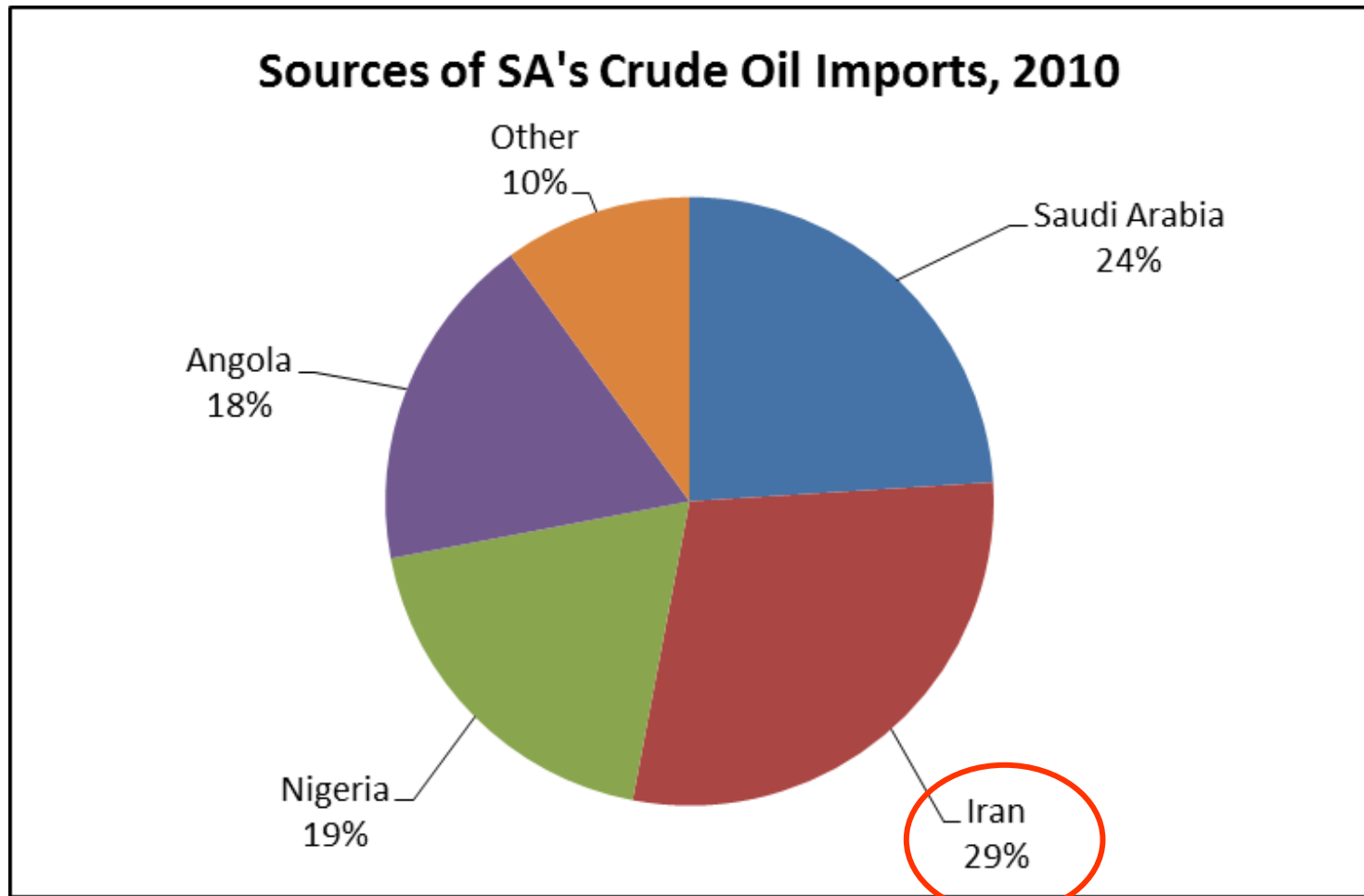
Source: BP, Sasol, PetroSA

# Transport Dominates Oil Use



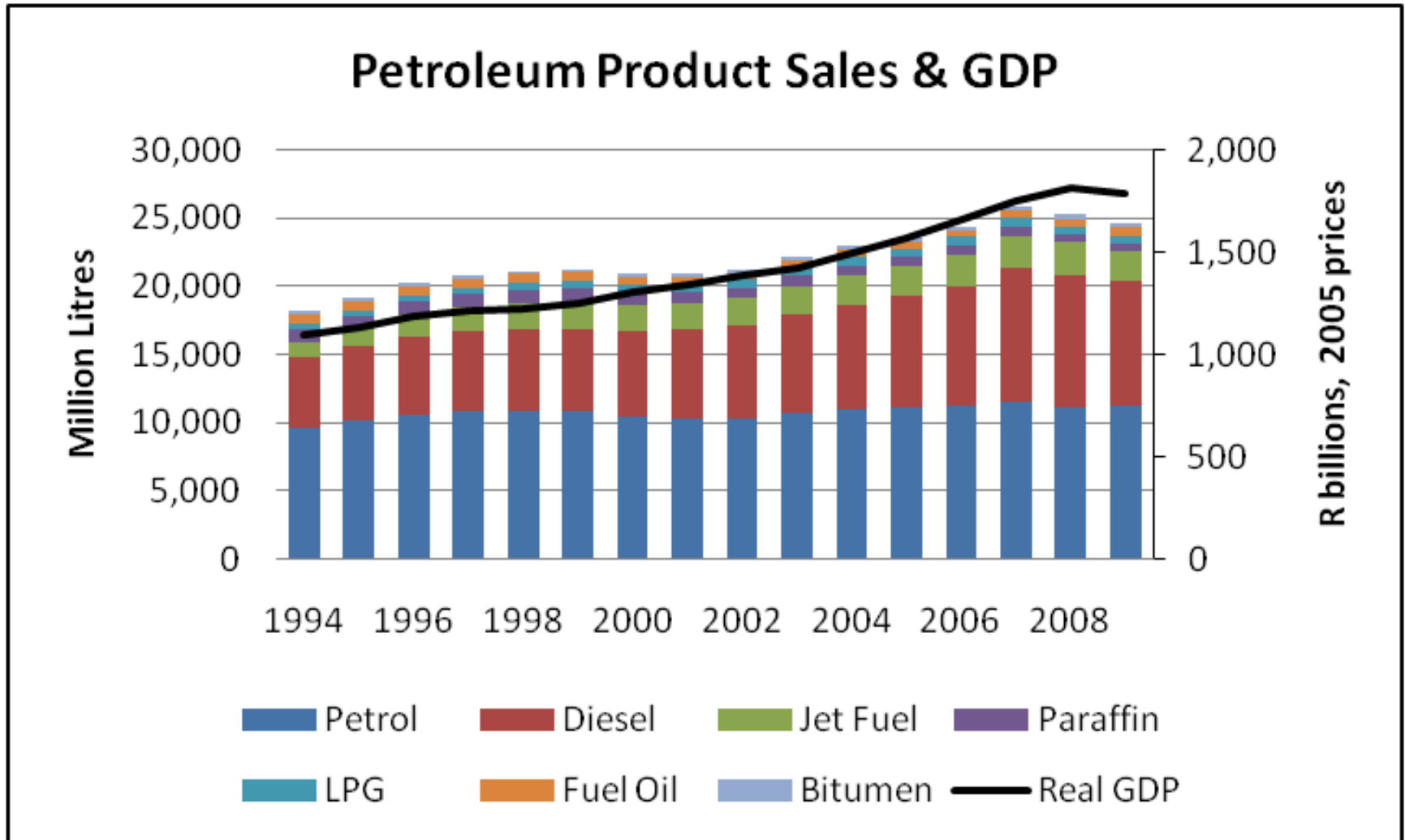
Source: IEA

# >90% Reliance on OPEC



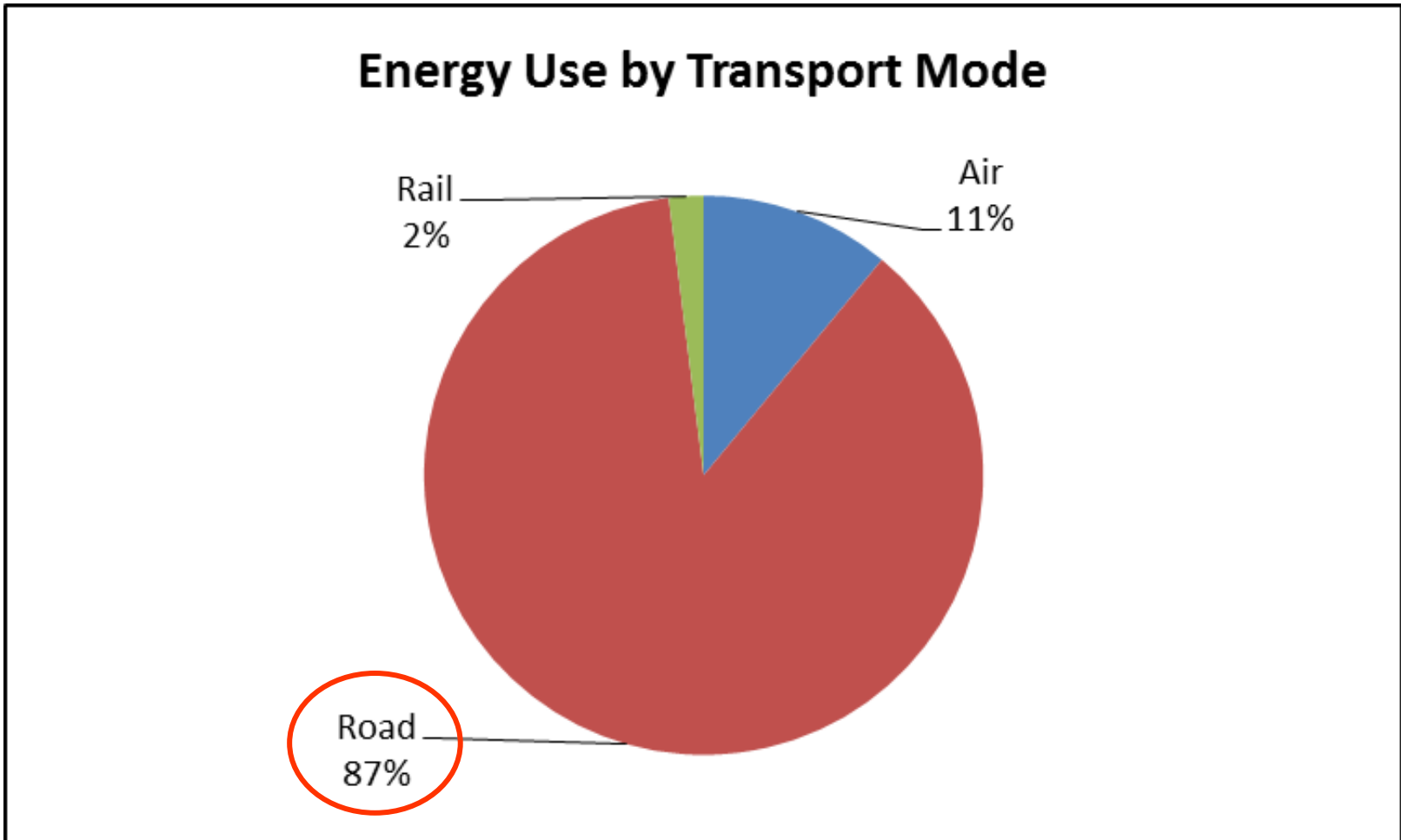
Source: EIA

# Oil Demand is Coupled to GDP



Source: SAPIA

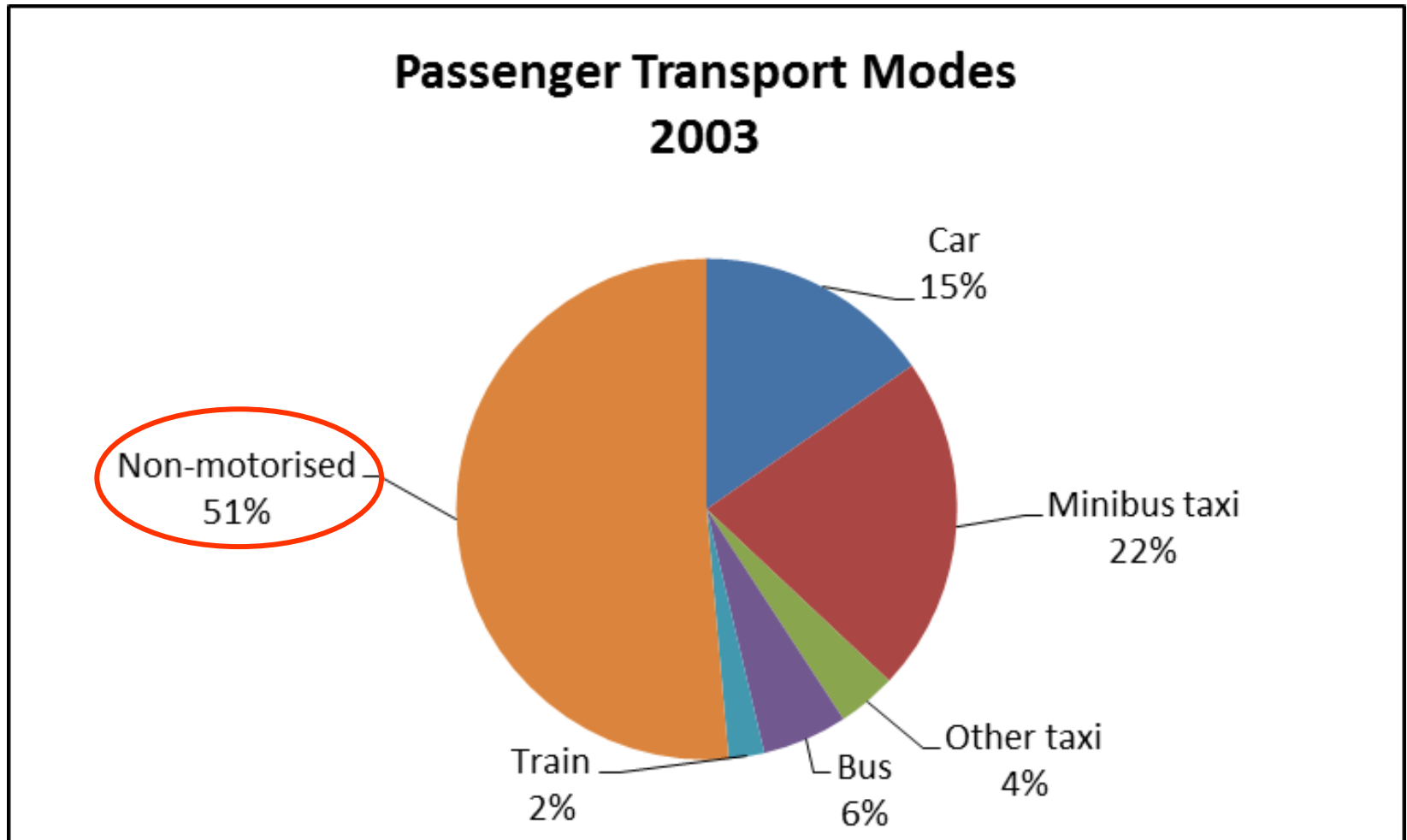
# Road Dominates Transport



Source: Dept of Energy

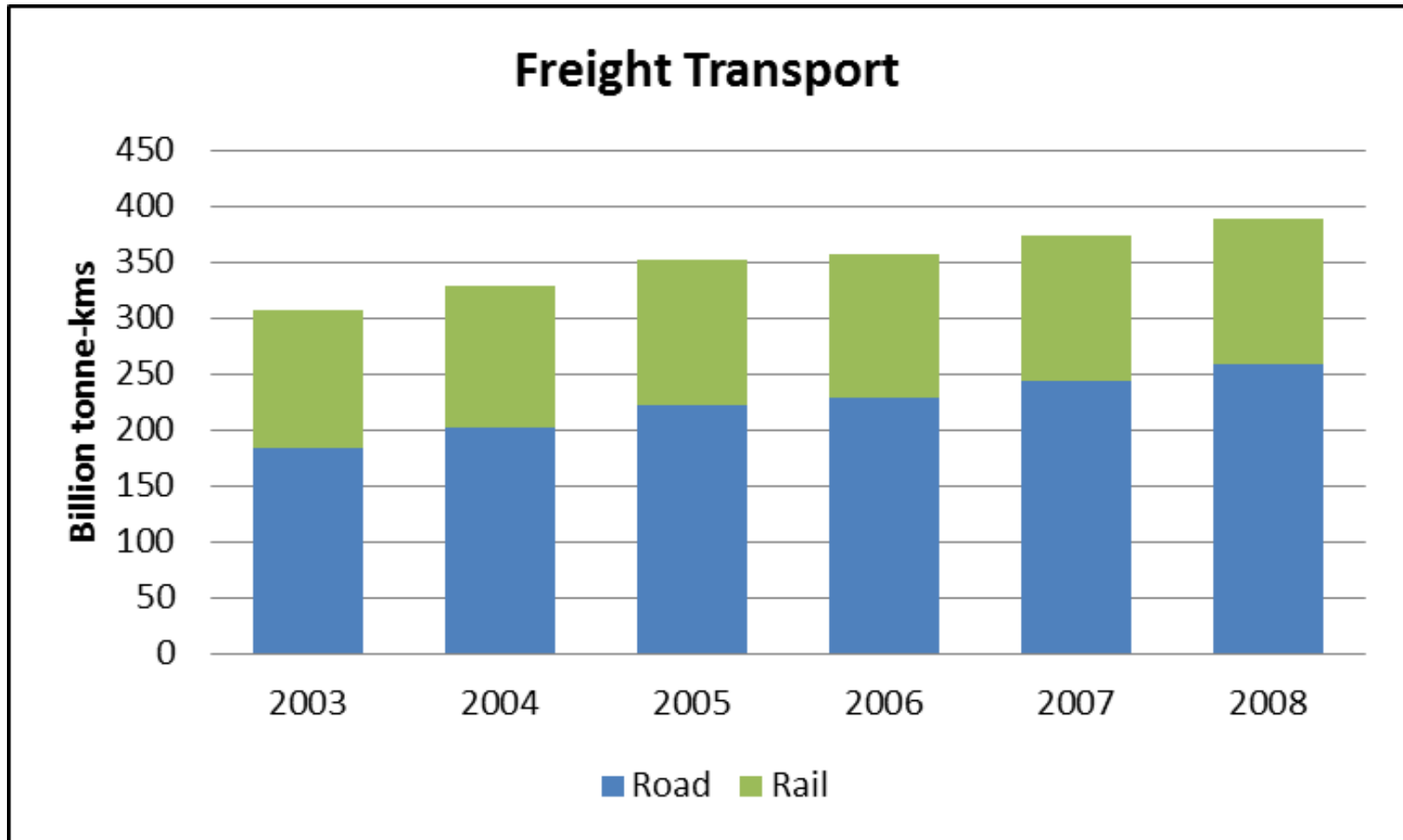


# Mobility is Unequal



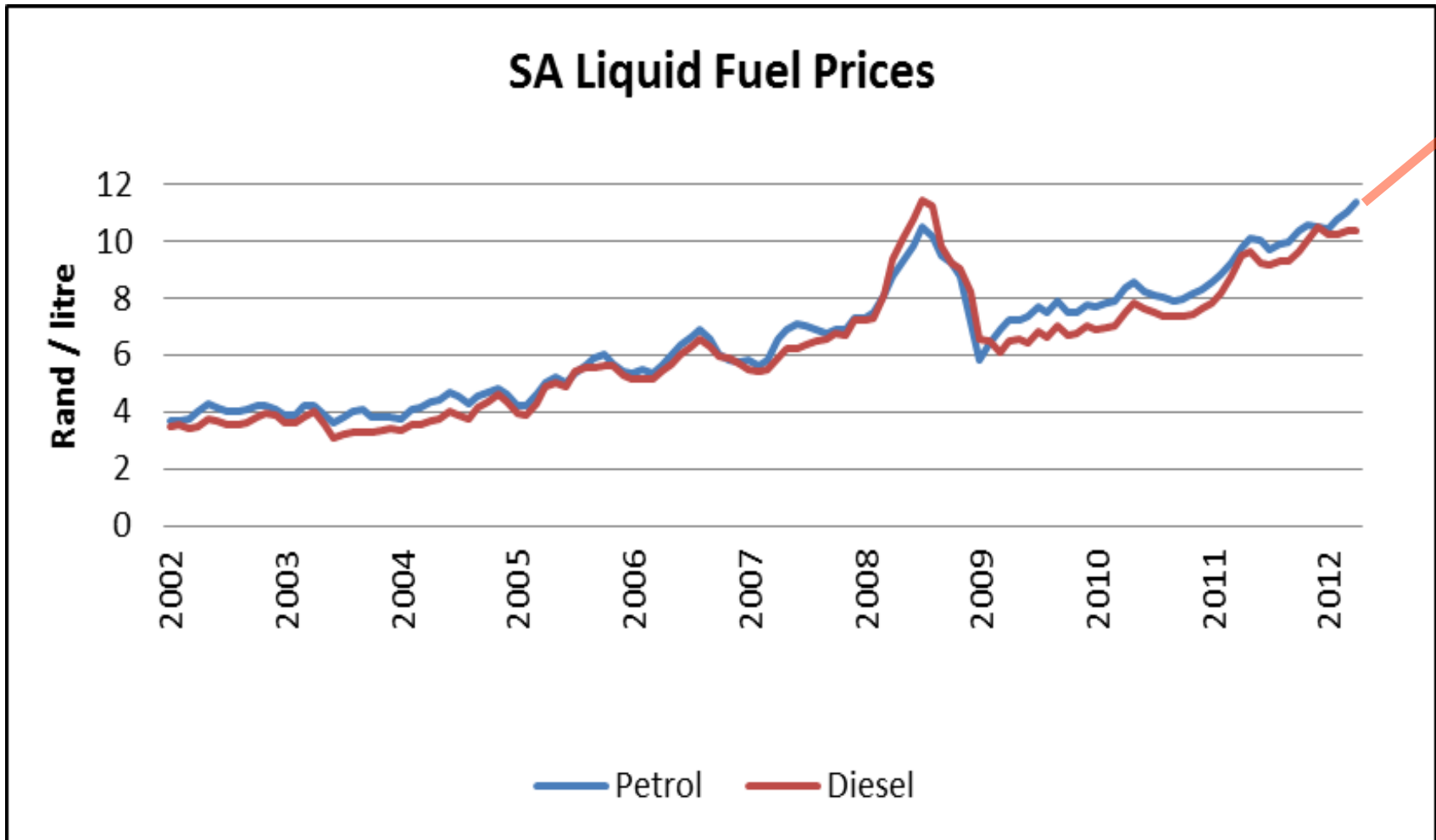
Source: Dept of Transport

# Freight is Road Dependent



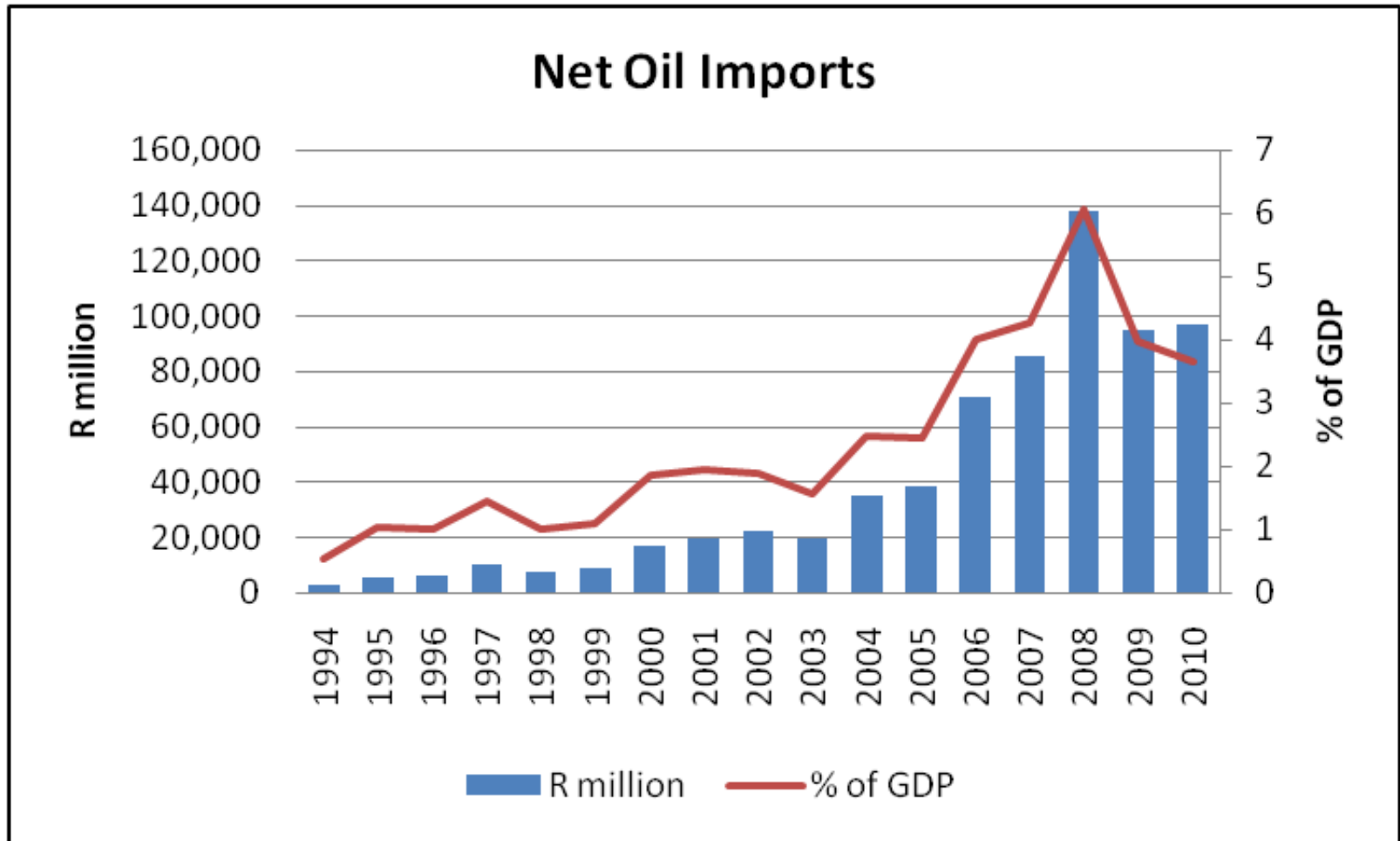
Source: CSIR

# Rising Fuel Prices



Source: Dept of Energy

# Oil Import Bill



Source: DTI, SARB

# Social Strife

SA Time: 24 May 2012 09:57:13 AM

## Durban taxi protest mayhem

May 18 2012 at 12:34pm

By Lungelo Mkamba and Bongani Hans

Taxi drivers turned central Durban into a war zone yesterday as they trashed streets, assaulted passengers, stoned taxis and brought traffic to a standstill in protest at Metro police "harassment".

The violence was sparked when about 500 drivers and taxi operators marched to the city hall about 10.30am in protest at alleged corruption and harassment by the metro police.

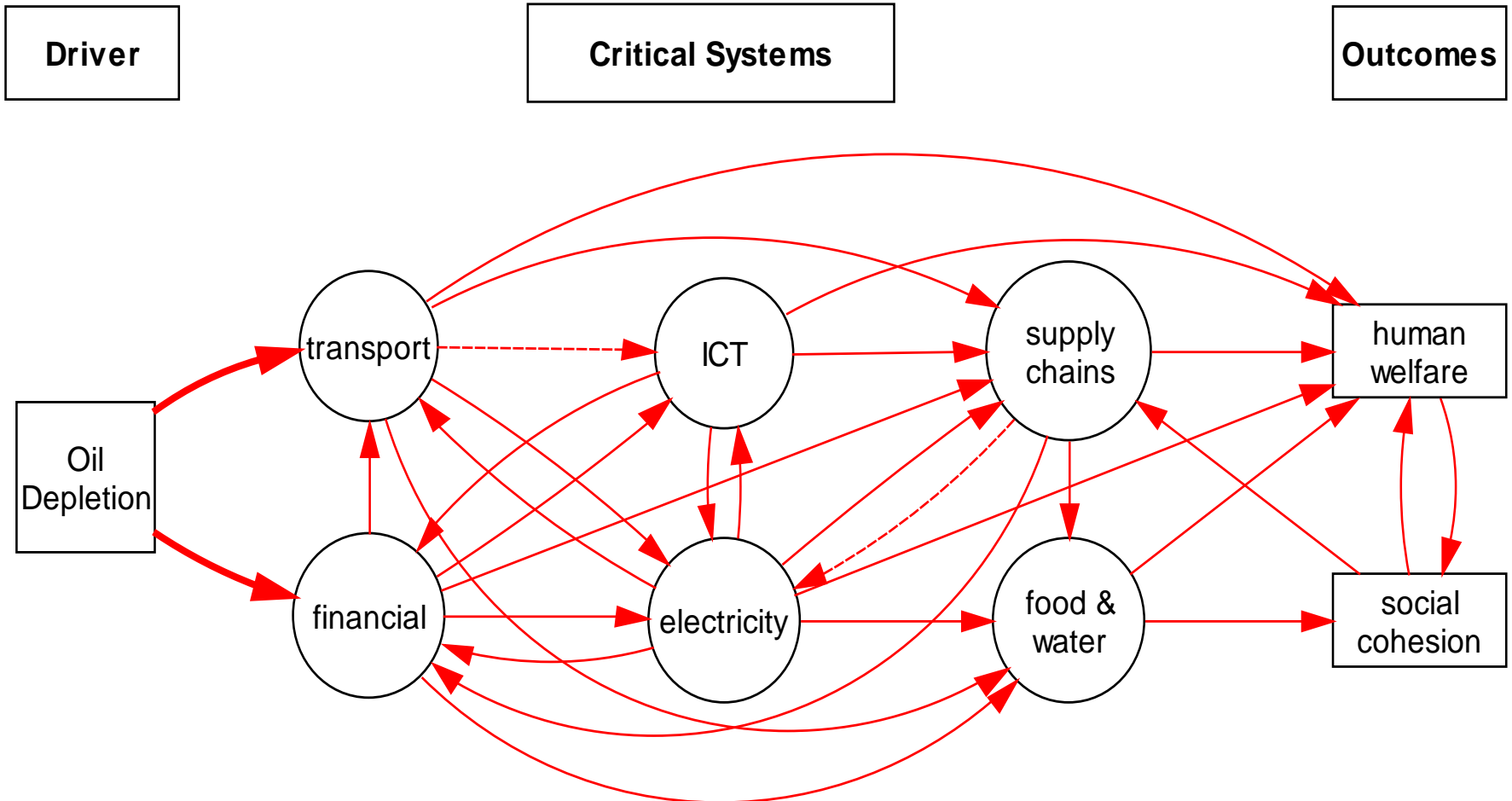
They also demanded that metro police go soft on traffic violations and taxi inspections during commuter peak times.

The protest turned violent soon after the march and traffic officers had to close off several streets. By late afternoon thousands of commuters remained stranded or stuck in the traffic jams that ensued in several parts of the city.



Passengers flee in terror from a taxi which was stopped and damaged by protesting taxi drivers in Durban yesterday. PICTURE: MARLON NERO

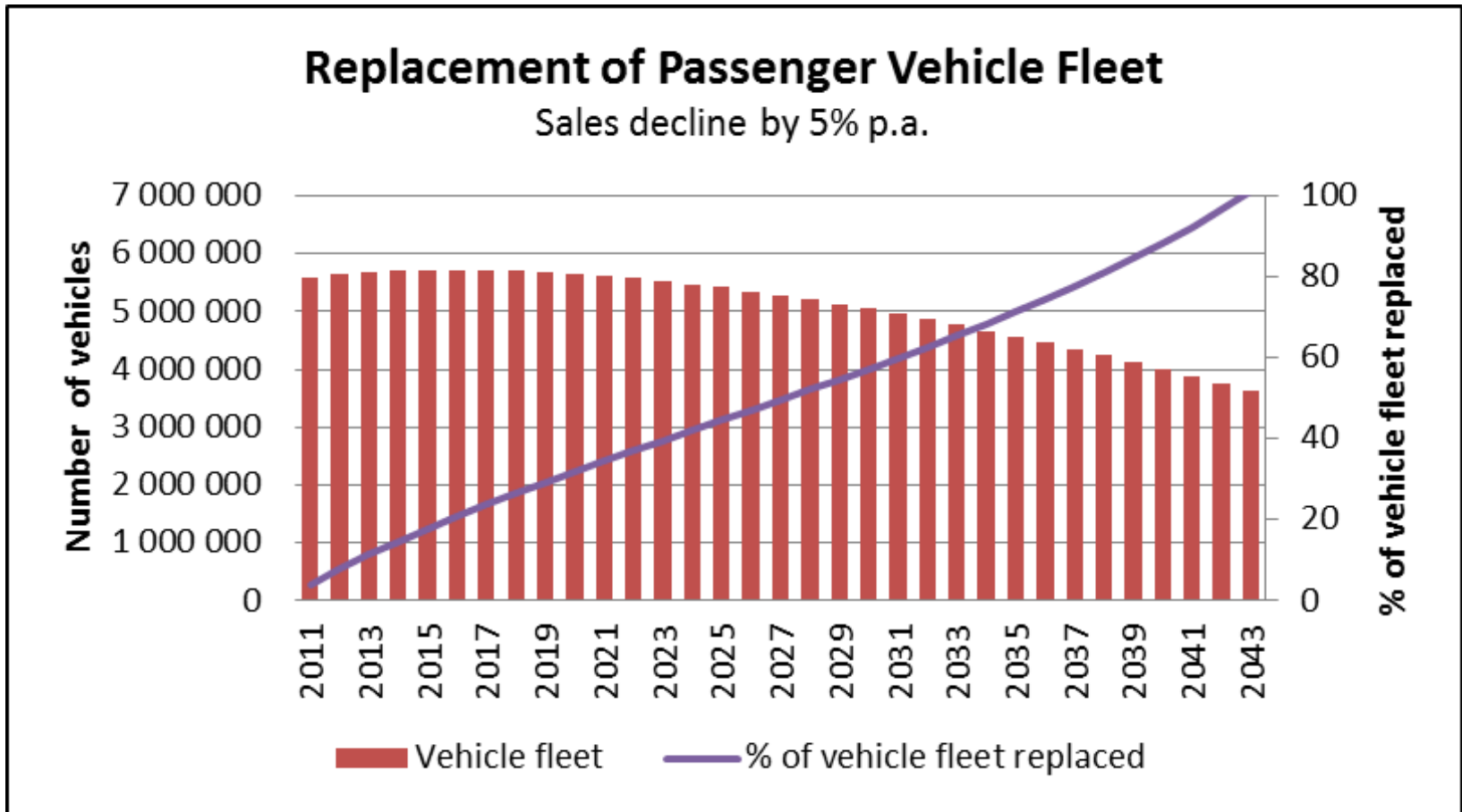
# Critical System Linkages



# Fuel Demand Reduction

Category	Measure	Total cost	Fuel saving	Fuel saving	Cost effectiveness
		Million Rands	%	Million litres	R/litre saved
Eco-driving	Information campaign	4.3	5%	566	0.01
Speed limit reduction (90km/h)	Total	50	3%	339	0.12
	<i>Signage</i>	40			
	<i>Enforcement</i>	10			
Car pooling	Total	84.3	7%	792	0.11
	Information campaign	4.3	1%	113	0.04
	<i>System to match riders</i>	0.25			
	<i>Restriping freeway lanes</i>	84			
	<i>Enforcement</i>	10			
Telecommuting	Information campaign	4.3	4%	453	0.01
Flexible work schedules	Information campaign	4.3	3%	317	0.01
Driving ban (odd/even)	Total	34	20%	2263	0.02
	<i>Signage</i>	20			
	<i>Enforcement</i>	10			
	<i>Information campaign</i>	4.3			
Integrated response	<i>Information campaign</i>	4.30	13%	1471	0.003
	<i>Enforcement, infrastructure, etc.</i>	164	29%	3281	0.05
	Total	169	42%	4751	0.04

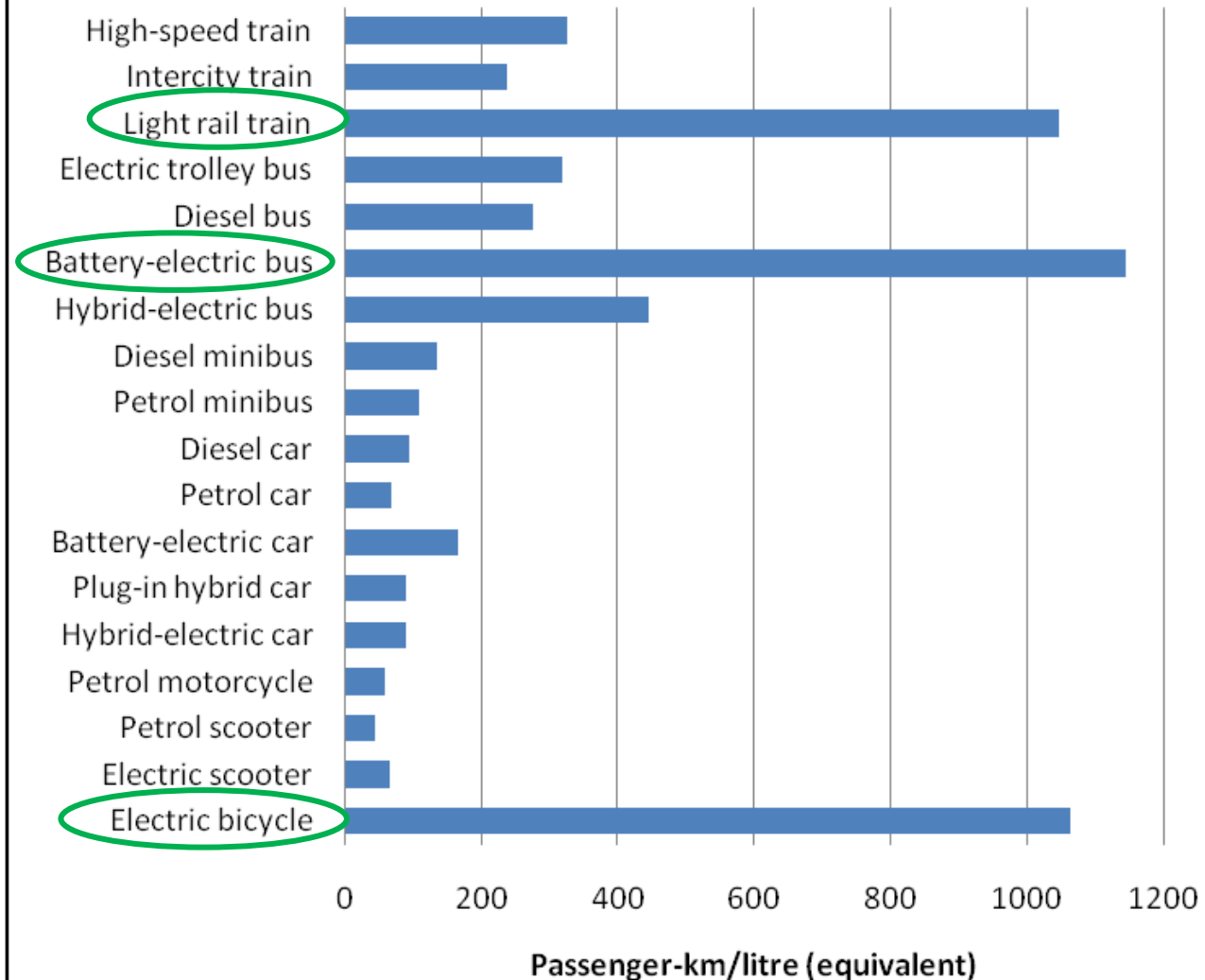
# Vehicle Fleet Replacement





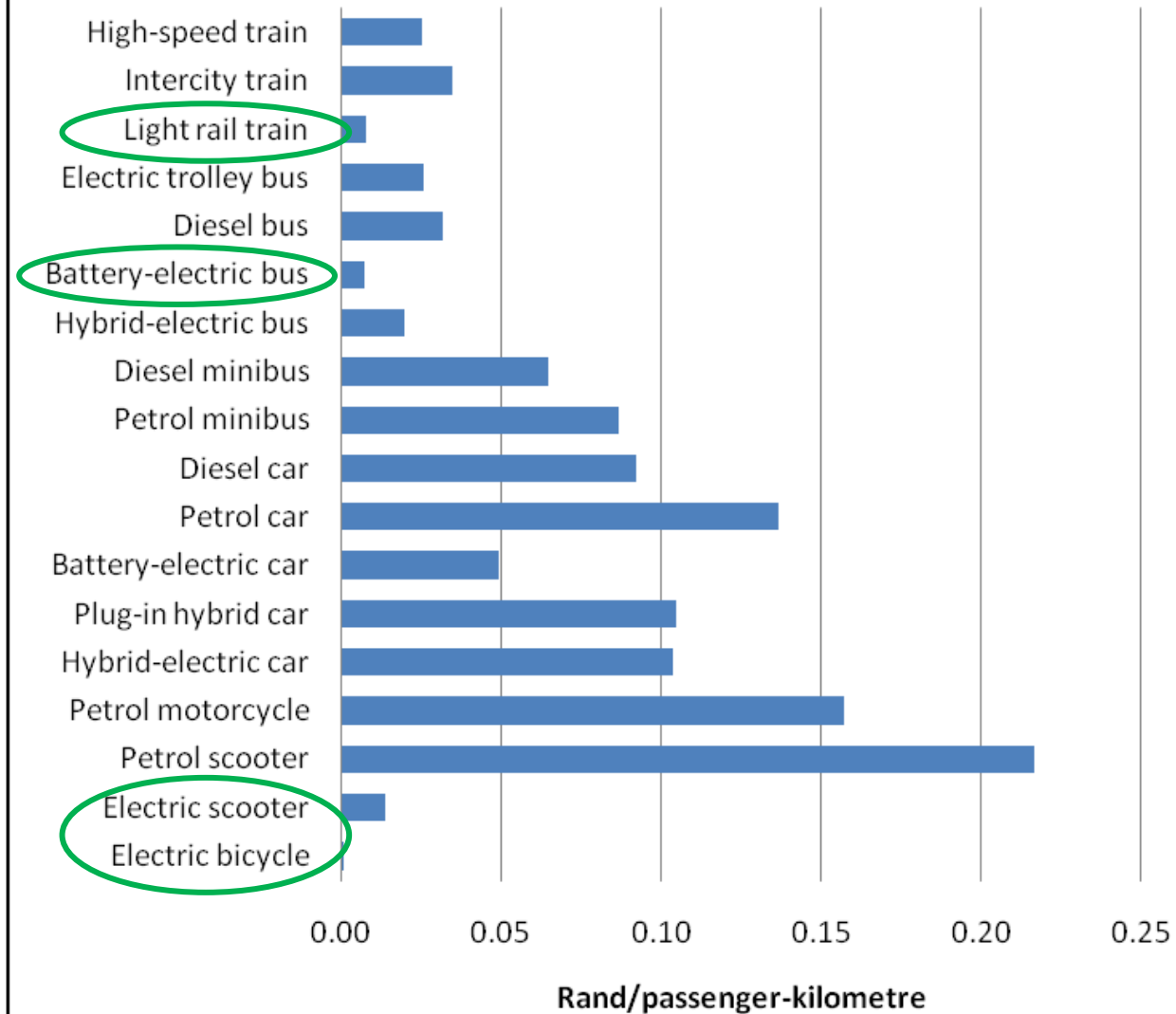
## Energy Efficiency of Land Transport Modes

(maximum loading)

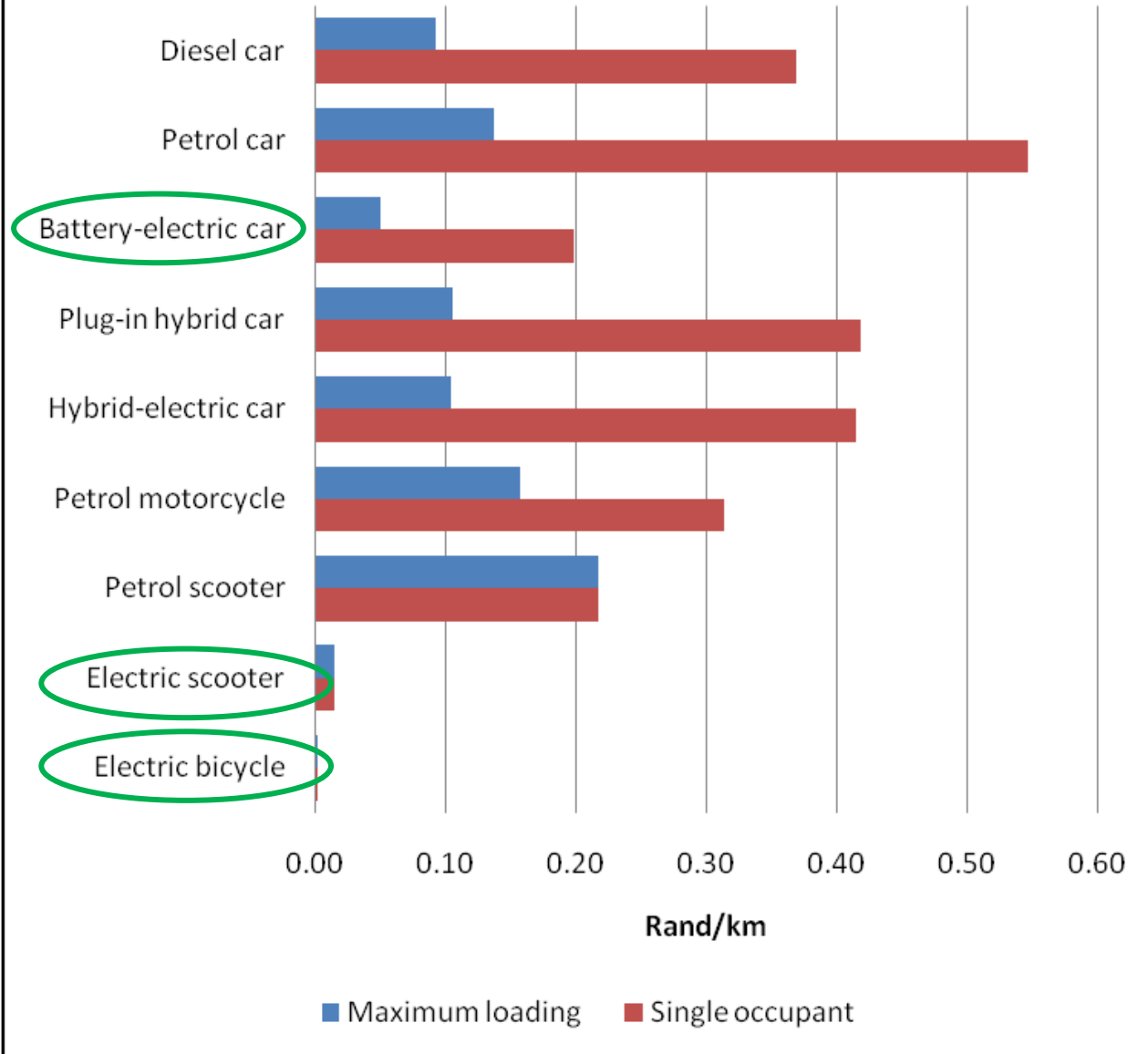


## Energy Cost of Passenger Road Transport Modes

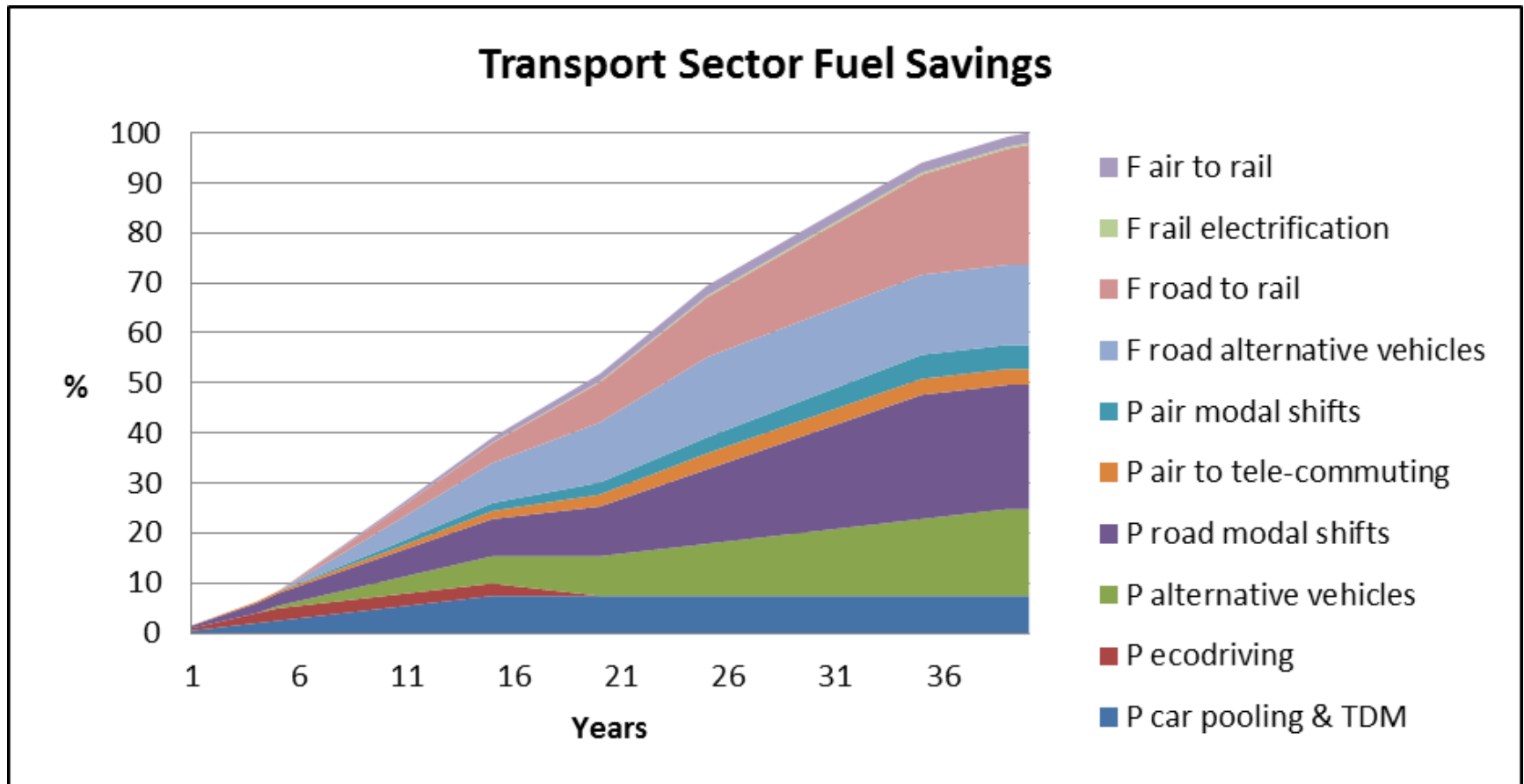
(maximum loading)



## Energy Cost of Passenger Road Vehicles



# Oil Independence Planning



# Government's Track Record

## STRENGTHS

- National Transport Master Plan
- passenger rail upgrades
  - R128 billion over 18 yrs
- freight rail upgrades
  - but mostly for exports
- bus rapid transit
- bicycle project

## WEAKNESSES

- recent airport upgrades
- subsidies to SA Airways
- freeway expansions
  - R25 billion for new roads
  - e-tolling debacle
- subsidy to local EV

Gautrain rapid rail  
- costly, serves wealthy

# Conclusions

- SA highly **dependent** on petroleum fuels
- BAU **impacts** of peak oil will be severe
- **Mitigation** is viable & urgent
  - demand side management
  - electrified mobility
  - public transit
  - shifting freight to rail
  - fuel rationing for social stability?